

September 12, 2003

To: Environmental Health Managers  
District Directors  
Virginia Tech Contract Soil Scientists  
AOSE/PEs

From: Donald J. Alexander, Director  
Division of Onsite Sewage and Water Services

Subject: GMP #122, Proprietary System Modification

Background:

Onsite system owners in the Commonwealth periodically seek to modify their sewage systems, perhaps voluntarily as part of a real estate transaction or maybe as a less expensive repair alternative. These requests for a system modification typically rely on processes that enhance effluent quality or biological activity of the effluent. This may include either the addition of air into the system or the addition of biological organisms, or both.

Several manufacturers of proprietary products have asked the Division of Onsite Sewage and Water Services ("DOSWS") to approve their products for repairs even though their product may not produce secondary effluent. Owners have asked local health departments ("LHDs") to issue a permit for adding a treatment device to both failed systems and also to properly working systems. In the case of properly working sewage systems, an owner may want a system modification so that a prospective purchaser can have added assurance that the system will continue to work properly.

It is generally recognized that some drainfield failures can be reversed by introducing secondary effluent ("SE") to the dispersal field. SE is defined as having BOD<sub>5</sub> and TSS less than 30 mg/l. Adding a treatment device that produces SE might reverse a system failure or perhaps enhance a working system's longevity.

On the other hand, some proprietary products claim that by lowering the BOD<sub>5</sub> and adding specific strains of bacteria or air into the system they can also reverse failures even if SE is not produced. The body of evidence is insufficient at this time to know whether these claims

have merit. However, DOSWS believes that reducing BOD<sub>5</sub>, adding strains of bacteria (or air) to a sewage system (either failing or working) will have little chance of harming the system, increasing public health risks, or degrading the environment or water quality.

Policy:

It shall be the policy of the Virginia Department of Health ("VDH") to review and list proprietary products that can be used for system modifications. A system modification is defined as any alteration to a properly permitted system which adds, deletes, or substantially alters the design of the system as originally permitted without expanding the capacity of the system or adding additional absorption area. A new construction permit is required to modify a properly permitted system. This policy does not apply when the dispersal area is increased or the capacity of the system is increased except when the site and soil conditions comply with the *Regulations* for the effluent strength being dispersed. Systems that are not listed as approved secondary (or better) effluent devices may only be used where the site and soil requirements are suitable for septic tank effluent.

Any product that produces SE (or better) is appropriate for use under this policy. Products that do not produce at least SE must be listed under this policy before use in a system modification. To become listed under the policy, the manufacturer shall:

1. Request the approval provide plans and specifications on the product listed and include a narrative description of the process and method of operation.
2. Disclose in writing the complete biological and chemical additives used..
3. Provide supporting documentation for the environmental and public health safety of all materials, biological or chemical, that will be introduced by the system.
4. Agree to notify the Division of any changes to the content, composition, or makeup of the additives.
5. Submit a written warranty that will be given to owners guaranteeing that the manufacturer will refund the full cost of the system if it fails to correct failure of the systems to the satisfaction of the health department.
6. Provide a comprehensive list to the department identifying all systems installed in the Commonwealth on an annual basis. The list shall identify the homeowner, the permit number of the modified or new system, any maintenance conducted in the previous 12 months, the current status of the system (the complete system), and the status of any operation and maintenance contracts between the company and the homeowner.

It shall be the policy of the VDH to allow owners holding a valid permit or other valid VDH approval to modify their sewage systems subject to the following conditions:

1. The owner must submit a completed application to the LHD and pay any associated fees.
2. The owner must participate in an informal conference that addresses the following, as appropriate:
  - a. The LHD's concerns regarding the condition of the existing sewage system or the modifications being proposed, if there are any;
  - b. The operation and maintenance required for the system modification and records that the owner must maintain;
  - c. The right for VDH employees to enter the property during regular business hours and without prior notice to inspect the sewage system and its modifications;
  - d. The criteria for determining whether the system modification is working.
3. The owner must complete and sign Appendix A.

**GMP #121- Appendix A**

**REQUEST FOR MODIFICATION  
90-DAY WARRANTY FOR FAILED SYSTEMS,  
And  
WAIVER OF LIABILITY**

County/City of \_\_\_\_\_  
Sewage Disposal System Construction Permit ID # \_\_\_\_\_  
Tax Map # \_\_\_\_\_ or property description: \_\_\_\_\_  
Owner: \_\_\_\_\_  
Date: \_\_\_\_\_

**NOTICE OF MODIFICATION**

This is to notify the Virginia Department of Health (“VDH”) that **[insert owner(s)]**, (“Owner”), owning the property described above, wishes to modify the sewage system, (the “Modified System”) using the **[insert product]**. **This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.**

Owner understands that the Modified System is not recommended or designed by the \_\_\_\_\_ County/City Health Department. The Modified System is authorized for use in the Commonwealth of Virginia pursuant to VDH’s Guidance Memoranda and Policy (GMP) #121.

On an annual basis, Owner understands that the **[insert company]** must submit to the Virginia Department of Health a comprehensive list that identifies all systems installed by the **[insert company]**, the system owners, and all maintenance that the owners or the **[insert company]** performed within the previous 12-months. Owner understands that if VDH withdraws its approval of the **[insert product]**, then Owner cannot use the **[insert product]** and must promptly take whatever actions VDH deems necessary to comply with the *Sewage Handling and Disposal Regulations*.

**90-DAY WARRANTY FOR FAILED SYSTEMS**

**[Insert Manufacturer, Distributor, or Supplier]**, (the "Company") has provided Owner with a written warranty clearly stating that the **[insert product]**, when installed and operated in accordance with the manufacturer's instructions and the Virginia Department of Health’s GMP 121, is warranted to correct a failed sewage system within 90 days.

The written warranty provided by the Company guarantees that the Owner is entitled to a full refund if the **[insert product]** does not repair the system within 90 days. A system may be defined as failing if the septic tank is pumped after the initial start-up, sewage backs-up into the dwelling, or

sewage appears on the ground's surface (See § 350 of the *Sewage Handling and Disposal Regulations* ("Regulations"). Owner understands that the Virginia Department of Health (VDH) will inspect this sewage system in about 90 days and determine whether the system is performing in accordance with the *Regulations*.

Owner agrees to fully accept VDH's determination regarding the system's performance and Owner agrees to promptly take whatever actions that VDH might require if the **[insert product]** does not repair the failed sewage system within 90 days from the **[insert product]**'s construction date.

### WAIVER

As OWNER of the property described above, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Modified System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Onsite Sewage Indemnification Fund, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I give permission for VDH employees to enter my property during regular business hours, without prior notice, to inspect the sewage system and its associated modifications to assure that it is functioning in accordance with the *Regulations*. I further agree to comply and execute any additional agreements made in writing during the Informal Fact-finding Conference.

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Name (print)

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Name (print)

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Signature

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Date

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Signature

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Date